



NV-8610A

Video Cassette Recorder
with Built-in Tuner



National



National VHS's Superior Video Performance and Outstanding Features are Setting the Pace in Today's Video World.

The advent of a video tape recorder format that's compact, reliable and easy to operate is an event we've all been waiting for. And now it's here. The VHS format. And although VHS is new, it wasn't born overnight. A whole era of research and development, based on long years of industrial video experience, went into its design and engineering.

As a result, the VHS format has been adopted by major corporations in the USA, Europe and Japan.

The prime prerequisites for video tape recorder excellence are absolute precision rotation of the video head cylinder and a solid foundation for components and parts.

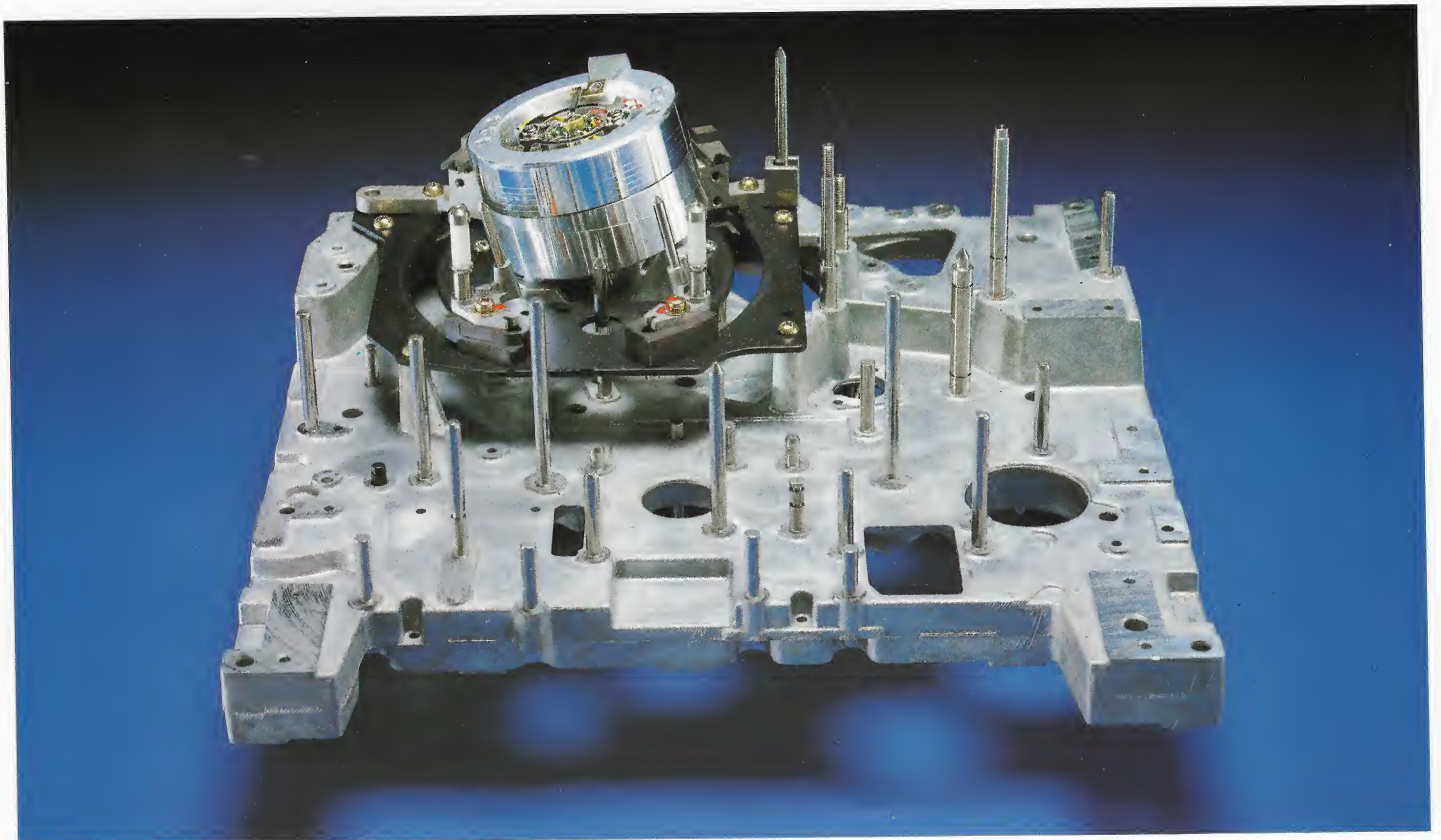
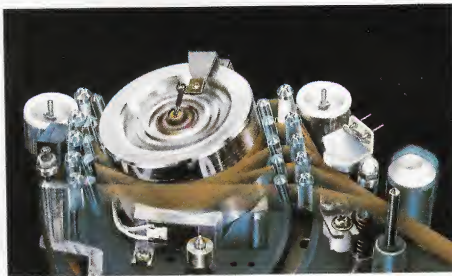
National's DD (direct drive) quartz-locked video head cylinder motor and DC-operated 3-motor system greatly surpass conventional belt-driven 2-

motor systems. Moreover, all critical components and mechanical parts are mounted on a rigid, one-piece annealed aluminum die-cast chassis. Its alignment stability and overall durability

put it way ahead of the stamped chassis. VHS decks feature the simple, one-step "M"-shape tape loading system for easier operation and reduced loading time. Its shorter tape path and quicker threading also help to minimize wear and tear on tapes.

Yet another outstanding development employed on National VHS decks is the Azimuth recording system. Elimination of "guard bands" between video tracks allows more video information to be recorded on the tape than conventional recording methods without between-track interference.

VHS



Quality Engineering Features

1 HPF™ Video Heads

National HPF™ high performance video heads inside the DD cylinder offer improved picture quality and a long, trouble-free service life. Internationally-patented HPF™ heads are made of super-durable Hot Pressed Ferrite, with uniformly oriented ferrite particles.

2 Built-in Electronic Digital Clock/7-Day Timer

The built-in electronic digital clock/7-day timer gives a 24-hour time display and performs unattended recordings that can be preset up to a week in advance. National lets you preset the shut-off time, set the timer in minute-by-minute divisions, and preset everyday unattended recordings of the same time slot and channel for up

to 7 days.

3 Built-in RF Converter

The built-in RF converter allows the NV-8610A to be used with most conventional TV receivers. Simply connect the RF output connector to the TV set's antenna terminal.

4 PAUSE/STILL and STILL ADVANCE Functions

The Still Frame mode stops the action, while the Still Advance button permits frame-by-frame playback. The Remote Pause Control makes it easy to eliminate unwanted programme interruptions. Pause/Still modes are automatically shut-off after five minutes to protect tape and video heads.

5 Built-in Tuner

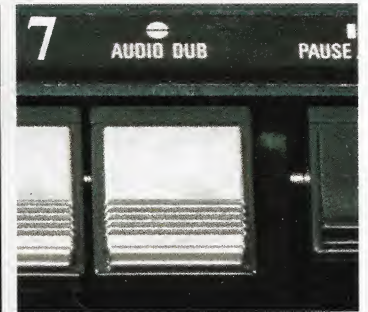
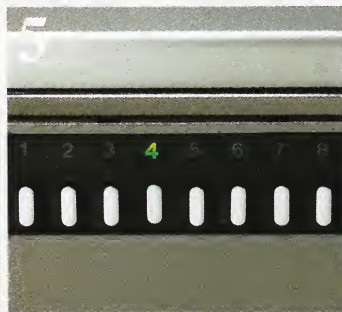
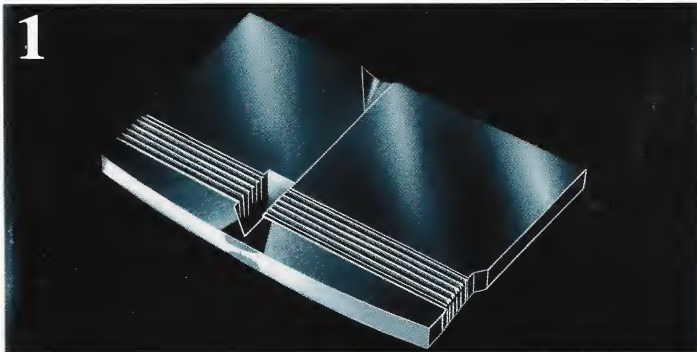
The built-in tuner provides reception of standard TV channels to facilitate direct recording. Up to 8 channels can be preset on the channel selectors for instant "one-touch" selection.

6 Moisture Sensor

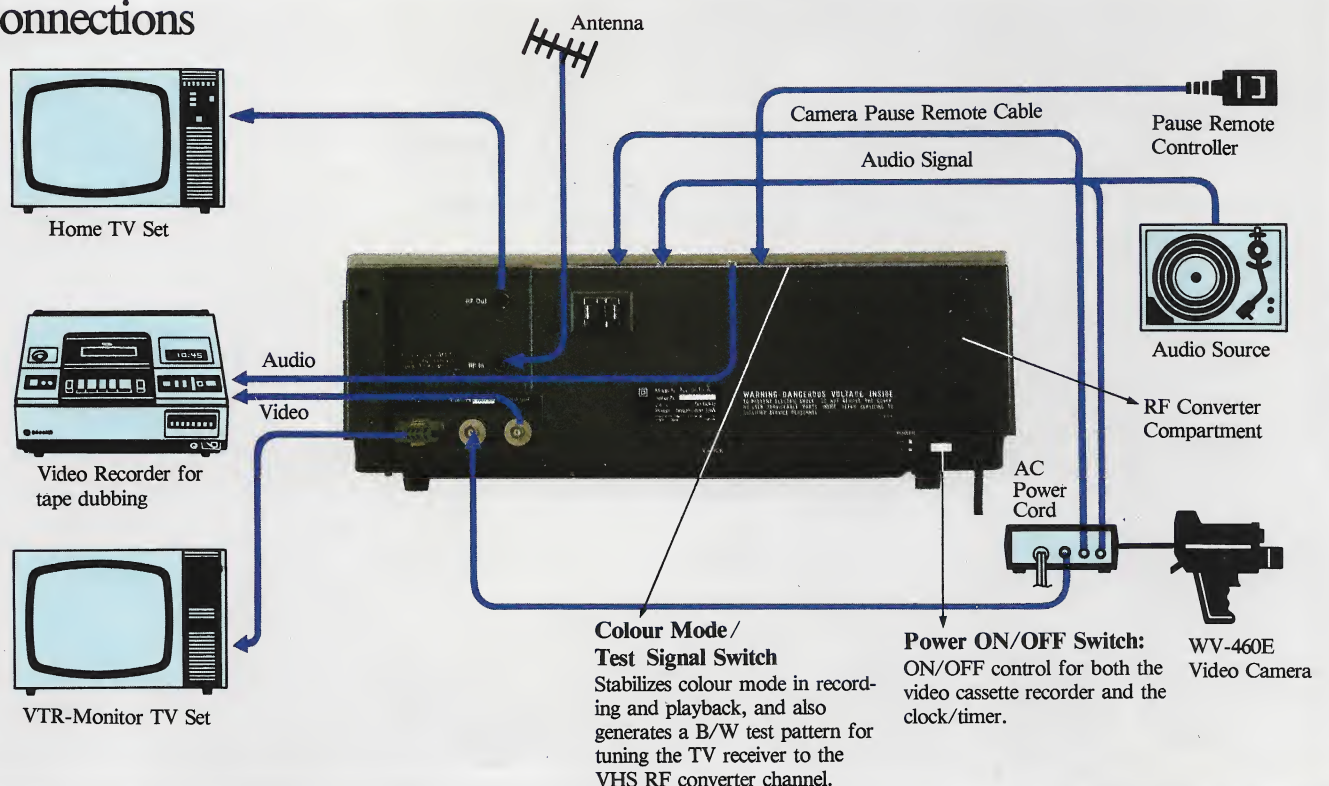
To prevent damage to tapes or deck, the NV-8610A has a moisture sensor. If condensation is present inside the unit, the moisture lamp will go on, and the unit will not operate until it has dried sufficiently.

7 Audio Dubbing

The audio dubbing feature of the NV-8610A lets you record sound along with any existing video programme for greatly expanded video cassette recorder versatility.



Connections



Optional Accessories



PAL Colour Camera
WV-3300E

B/W Camera
WV-460E

Cassette Tapes
NV-E60
NV-E120
NV-E180

WV-3300E & WV-3310E

PAL Colour Camera

The WV-3300E/WV-3310E portable PAL colour camera with built-in microphone feature one 1" colour vidicon tube for low lag and low retention of afterimages. Plus internal sync. and four position colour temperature conversion and white level setting. WV-3300E has 1.5" CRT viewfinder with 6:1 zoom lens and WV-3310E has optical viewfinder with fixed focal length lens.

WV-460E B/W Video Camera

The WV-460E is a black & white hand held video camera with built-in microphone. The convenient trigger switch on the camera grip.

Compact VHS Cassette Tapes

Compact VHS cassette tapes are available in lengths of 60, 120 & 180 minutes. They can be used in any video unit bearing the VHS mark, regardless of manufacturer.

Performance data and specifications

Model NV-8610A

Power source: 240V AC, 50 Hz
Power consumption: Approx. 39 watts
Television system: CCIR: 625 lines, 50 fields
PAL colour signal

Video recording system: 2 rotary heads, helical scanning,
VHS system azimuth recording
Luminance: FM recordings, 3.8—4.8 MHz
Colour signal: Converted subcarrier phase shift recording, 627 kHz

Audio track: 1 track
Tape: Tape width 12.7 mm, super high density tape
Tape speed: 23.39 mm/sec.
Video track width: 0.049 mm
Video head gap:
azimuth: 6°
Audio track width: 1.0 mm
Control track width: 0.75 mm
Record/playback time: 180 min. with NV-E180
FF/REW time: Less than 4.5 min. with NV-E180
Horizontal resolution: B/W: more than 300 lines
Colour: more than 240 lines

Audio frequency response: 80 to 10,000 Hz
Signal-to-noise ratio: Video: more than 43 dB
Audio: more than 43 dB
Operating temperature: 5°C to 40°C
Operating Humidity: 10% to 75%
Heads: Video: 2 rotary heads
Audio/Control: 1 stationary head
Erase: 1 full track erase
1 audio dubbing erase

Inputs.

Video: 1.0 Vp-p, 75Ω unbalanced (BNC & 8-pin connector)
Audio: MIC - 70 dB, 600Ω unbalanced (M6)
LINE - 20 dB, 100kΩ unbalanced (RCA & 8-pin connector)
Pause remote: Short circuited (M2)
Camera remote: Short circuited (M2)
TV tuner: VHF ch. 0—11, UHF ch. 21—69, 75Ω unbalanced (DIN)

Outputs:

Video: 1.0 Vp-p, 75Ω unbalanced (BNC & 8-pin connector)
Audio: LINE - 6 dB, 600Ω unbalanced (RCA)
0 dB, 600Ω unbalanced (8-pin connector)
RF converter: VHF ch. 0 or 1, 75Ω unbalanced (DIN)

Weight:

Approx. 16.5 kg

Dimensions:

Approx. 485 (W) x 176 (H) x 368 (D) mm

Standard Accessories:

Video cassette tape, NV-E120 x 1
DIN-DIN 75Ω coaxial cable, 2 m long x 1
Remote pause controller, NV-A181, (6 m) x 1
Dust cover x 1
Antenna adaptor x 1

Caution: Unauthorised recording of TV programmes and other materials may infringe the rights of others.

Specifications subject to change without notice.

National

Matsushita Electric Industrial Co., Ltd.

National Panasonic and Technics are the brandnames of Matsushita Electric

Printed in Japan

National VHS...Big news in home entertainment.

Building up your tape library is a lot of fun...and educational, too!

Recording while you're out.

You can go out for the evening without missing those "must-see" programmes. Simply set the date and time on the 7-day timer and select the desired station with the built-in tuner. VHS will do the rest automatically.



Create your own home video shows.

Making home video shows is easy. Just connect a camera, and let your imagination be your guide.

Recording one programme while watching another.

When the programme you don't want to miss and the movie you've always wanted to see are on at exactly the same time, you can watch one channel and tape the other.



Recording 3 continuous hours while you watch.

Thanks to the three-hour recording capability, you can even record full-length feature films on a single VHS cassette while you watch.



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VHS